

What is claimed is:

1. An apparatus for cutting masonry, ceramic tile and other mineral-containing articles, each of the articles to be cut having a longitudinal axis and a transverse axis, the apparatus comprising:

- (a) a table defining a planar surface for supporting and positioning said article;
- (b) a blade support structure projecting from said table, said support structure having a cutting arm extending therefrom, said cutting arm pivotable about said support structure and capable of being moved in an arcuate cutting motion between an initial position away from said table and a cutting position toward said table; and
- (c) a rotatable blade mounted on said cutting arm, said blade having a diameter greater than a length of a longitudinal dimension of said article, said blade capable of cutting said article into two pieces along said article's longitudinal axis in a single arcuate motion.

2. The apparatus of claim 1, further comprising a motor for rotatably driving said blade.

3. The apparatus of claim 2, wherein said motor is secured to said cutting arm such that said motor is parallel to said table.

4. The apparatus of claim 1, furthering comprising a guard member extending over an upper portion of said blade.

5. The apparatus of claim 4, wherein said guard member further acts as a dust deflector capable of directing cutting wastes to at least one of generally parallel to said table and generally tangential to said blade.

6. The apparatus of claim 4, wherein said guard member provides at least 181 degrees of coverage of said rotatable blade.

7. The apparatus of claim 1, furthering comprising an exhaust fitting for a vacuum pump, said fitting when equipped with said vacuum pump exhausts air in a stream generally toward said fitting generally parallel to said table.

8. The apparatus of claim 1, wherein said table is defined by a plurality of openings.

9. The apparatus of claim 1, wherein said cutting arm and said support structure provide tolerance control to said blade as said blade, secured to said cutting arm, pivots on said blade

support structure.

10. The apparatus of claim 1, further comprising a torsion spring, said torsion spring placed where said cutting arm extends from said support structure, wherein said torsion spring balances said cutting arm with attached objects.

11. The apparatus of claim 1, wherein said cutting arm is arc shaped.

12. The apparatus of claim 1, wherein said cutting arm is elliptically arc shaped.

13. The apparatus of claim 1, wherein said blade, secured to said cutting arm, pivots on said blade support structure such that said blade cuts said article from a top of said article down through an entire bottom of said article.

14. The apparatus of claim 1, further comprising a cavity in said table for receiving edge portions of said blade.

15. The apparatus of claim 1, further comprising a backstop removably secured to said table to stabilize said article during contact with said blade.

16. The apparatus of claim 1, wherein said support structure comprises two angled elements,

said angled elements both having a first end and a second end, where said first ends are connected by a first rod and said second ends are connected by a second rod.

17. The apparatus of claim 16, wherein at least one of said rods is cylindrical.

18. The apparatus of claim 16, wherein at least one of said rods is a tube.

19. The apparatus of claim 16, wherein said cutting arm pivots on support structure as defined by one of said tubes.

20. The apparatus of claim 1, wherein said blade support structure and said cutting arm poise said blade so as to maintain perpendicularity of said blade to said table.

21. The apparatus of claim 1, wherein said rotatable blade has a cutting surface comprising segments, at least one of said segments terminating with a cooling hole.

22. The apparatus of claim 1, wherein said blade support structure projects upwardly from said table.

23. The apparatus of claim 1, further comprising a leverage arm extending from said

cutting arm.

24. An apparatus for exhausting fluid from a cutting device mounted on a horizontal table, said apparatus comprising a vacuum pump and an exhaust fitting in fluid communication therewith, said fitting capable of exhausting fluid in a stream generally parallel to said table, said apparatus comprising a funnel-shaped structure having one of (a) a trapezoidally shaped receiving end and (b) a triangularly shaped receiving end.

25. An apparatus for deflecting dust from a cutting element, said apparatus comprising a guard member capable of generally encasing an upper portion of a rotatable blade, said guard member shaped to deflect cutting waste to an exhaust fitting, said exhaust fitting having a funnel shape such that said fitting and said guard member overlap upon urging said rotatable blade into a cutting motion.